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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,559	03/25/2004	Tetsunori Kaji	520.35237CV4	4764
20457	7590	11/17/2005	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			CROWELL, ANNA M	
			ART UNIT	PAPER NUMBER
			1763	

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/808,559

Applicant(s)

KAJI ET AL.

Examiner

Michelle Crowell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 08/808,805.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>03/04,08/04,11/04,01/05,09/05</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-25, drawn to an apparatus, classified in class 156, subclass 345.47.
  - II. Claims 26, drawn to a method, classified in class 216, subclass 67.
2. Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus as claimed can be used to practice another and materially different process such as chemical vapor deposition or cleaning.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. Greg Montone on October 25, 2005 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-25. Affirmation of this election must be made by applicant in replying to this Office action.

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Claim 26 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 25 recites the limitation "the outside chamber" in line 5. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims ~~8~~<sup>1-8</sup>, 13, 16, 19, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenz et al. (U.S. 5,534,751) in view of Ohmi (U.S. 5,272,417).

Referring to Figures 1 and 2, column 4, line 48-column 6, line 65, Lenz et al. discloses a plasma processing apparatus comprising: a vacuum processing chamber 17 for processing a sample, by using plasma, an outer chamber 11 connected with an evacuation means (col. 4, lines 53-54, col. 5, lines 4-5), a gas supplying unit for introducing into the vacuum processing chamber a processing gas (col. 5, lines 1-4); an upper electrode 14 and a lower electrode 13 for generating plasma therebetween and providing the vacuum processing chamber (col. 4, lines 60-63); a discharge confining means 30 comprised of silicon for surrounding the vacuum processing chamber 17 (col. 6, lines 8-29, specifically, col. 6, lines 16-18).

Lenz et al. fails to teach the electrode cover is comprised of silicon.

Referring to column 6, lines 33-43, Ohmi teaches an electrode cover 101 comprising silicon. The electrode cover 101 prevents etching of the electrode 102. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide one of the

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electrodes of Lenz et al. with the an electrode cover as taught by Ohmi in order to prevent etching of the electrode.

Regarding the limitation of “fluorine-containing etching gas”, the type of gas used in apparatus claims is considered intended use and therefore is of no significance in determining patentability. Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Additionally, Ohmi teaches that a fluorine containing gas is conventionally used for etching a film (col. 6, lines 29-33). Thus, the apparatus of Lenz et al. in view of Ohmi is capable of providing a fluorine containing gas to the chamber.

Regarding the limitation of “an insulator film in the sample”, this is considered intended use and therefore is of no significance in determining patentability. The inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims.” In *re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963). Moreover, the apparatus of Lenz et al. in view of Ohmi is capable of processing various types of films (Lenz et al., col. 6, lines 3-7, Ohmi, col. 12, lines 12-15) and thus is capable of processing an insulator film on the sample.

With respect to claims 13 and 24, the apparatus of Lenz et al. further includes that the discharge confining means 30 is ring-shaped (Fig. 2, and col. 5, lines 56-59).

With respect to claims 16 and 25, the apparatus of Lenz et al. further includes that the discharge confining means is provided with at least a gap for evacuating the processing gas from the vacuum chamber 17 to the outer chamber 12 (col. 6, lines 30-34).

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12. Claims 9-12, 14-15, 17-18, and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenz et al. (U.S. 5,534,751) in view of Ohmi (U.S. 5,272,417) as applied to claims 8, 13, 16, 19, 24, and 25 above, and further in view of Steger et al. (U.S. 5,494,523) or Ogasawara et al. (J.P. 07-135200).

The teachings of Lenz et al. in view of Ohmi have been discussed above.

Lenz et al. in view of Ohmi fails to teach a susceptible cover comprised of silicon. Referring to column 3, lines 39-42, and column 4, line 64-column 5, line 25 of Steger et al. and the abstract of, Steger et al. or Ogasawara et al. teaches it is conventionally known in the art to provide a sample mounting surface with a susceptible cover comprised of silicon in order to reduce particle trapping and to improve process uniformity. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the sample mounting surface of Lenz et al. in view of Ohmi with the susceptible cover comprised of silicon as taught by Steger et al. or Ogasawara et al. since this would reduce particle trapping and improve process uniformity.

With respect to a high frequency electric power source, Lenz et al. further includes a high frequency electric power source 24 for generating plasma between upper 14 and lower 13 electrodes (Fig. 1, col. 5, lines 11-20)

With respect to a bias electric power source, Lenz et al. further includes a bias electric power source 23 to control the energy of ions in the plasma (Fig1., col. 5, lines 16-20, 34-38).

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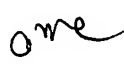
***Conclusion***


13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sekine et al.'207 teach a silicon susceptible cover. Latz et al.'201 and Hirose et al.'809 teach discharge confining means. Yamagami et al.'645 teach a discharge confining means made of silicon.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Crowell whose telephone number is (571) 272-1432. The examiner can normally be reached on M-F (9:30 -6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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